Reply to Office Action dated September 3, 2003

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A split nut opening/closing device in a mold clampingapparatus in which a fixed platen for holding a fixed mold and a movable platen for holding a movable mold are provided, and a tip-end threaded portion of a plurality of tie bars, one end of which is fixed to either one of said platens and the other end of which is projected by penetrating the other platen, is engaged with a split nut provided on the other platen to connect said fixed platen to said movable platen via said tie bars, by which a mold clamping force is generated between said platens in order to clamp said fixed and movable platens by giving tension to said tie bars, wherein each pair of left half piece and right half piece of said split nut nuts are slidably supported by guide boxes attached to the other platen so as to hold said tie bars therebetween, two connecting rods penetrate two sets of the pairs of left half piece and right half piece provided respectively on said tie bars, one end of the connecting rod is fixed to one a first half piece of the left half piece and the right half piece and the other a second half piece of the left half piece and the right half piece is slidably supported by the connecting rod, the slidably supported second half piece and the one first half piece are link connected so as to be brought into contact with and separated from each other, and driving means is provided wherein the movement of the one first half piece is transmitted to the other second half piece via a link mechanism, and the other second half piece is brought into contact with and separated from said one first half piece in connection with said one first half piece, wherein the guide boxes each include two bottom plates for supporting each pair of left half piece and right half piece and a groove portion provided between the bottom plates for receiving the link mechanism.

Reply to Office Action dated September 3, 2003

- 2. (Canceled)
- 3. (Currently Amended) The split nut opening/closing device in a mold clamping apparatus according to claim 1, wherein a guide box is provided in positions of two tie bars on the other platen; said guide box slidably support said paired left half piece and right half piece of the two sets so as to hold said tie bar; said guide box is provided with the link mechanism that includes a link plate rotatably supported via a support pin[[;]] and a pin engaging with an elongated hole formed at both ends of said link plate that is provided on each of said left half piece and right half piece; and said left half piece and right half piece are link connected in a restrained manner so as to move symmetrically with respect to said support pin.
- 4. (Currently Amended) The split nut opening/closing device in a mold clamping apparatus according to claim 1, wherein a geared motor with brake is mounted on a plate fixed to said connecting rod rods; and the left half piece and right half piece of said one split nuts are brought closer to and separated from each other via a reciprocating device provided on an output shaft of said geared motor with brake.
- 5. (Currently Amended) The split nut opening/closing device in a mold clamping apparatus according to claim 4, wherein the left half piece and right half piece of said one split nut nuts are brought closer to and separated from each other by the reciprocating device consisting of a ball shaft connected to the output shaft of said geared motor via a coupling and a ball nut which engages with said ball shaft and is connected to the right half piece of said one split nut nuts.
- 6. (Currently Amended) The split nut opening/closing device in a mold clamping apparatus according to claim 3, wherein said guide box is made up of attachment portions

Reply to Office Action dated September 3, 2003

attached to a side portion and a front portion of said other platen, two bottom plates for supporting the half pieces of said split nut, and a groove portion provided between said bottom plates.

7. (Currently Amended) The A split nut opening/closing device in a mold clamping apparatus according to claim 4 in which a fixed platen for holding a fixed mold and a movable platen for holding a movable mold are provided, and a tip-end threaded portion of a plurality of tie bars, one end of which is fixed to either one of said platens and the other end of which is projected by penetrating the other platen, is engaged with a split nut provided on the other platen to connect said fixed platen to said movable platen via said tie bars, by which a mold clamping force is generated between said platens in order to clamp said fixed and movable platens by giving tension to said tie bars, wherein each pair of left half piece and right half piece of said split nuts are slidably supported by the other platen so as to hold said tie bars therebetween, two connecting rods penetrate two pairs of left half piece and right half piece provided respectively on said tie bars, one end of the connecting rod is fixed to a first half piece of the left half piece and the right half piece and a second half piece of the left half piece and the right half piece is slidably supported by the connecting rods, the second half piece and the first half piece are link connected so as to be brought into contact with and separated from each other, and driving means is provided wherein the movement of the first half piece is transmitted to the second half piece via a link mechanism, and the second half piece is brought into contact with and separated from said first half piece in connection with said first half piece, wherein a rotating crank mechanism is used in place of said reciprocating device a geared motor with brake is mounted on a plate fixed to said connecting rods; and the left half piece and right half piece of said split nuts are brought closer to and separated from

Reply to Office Action dated September 3, 2003

each other via a rotating crank mechanism provided on an output shaft of said geared motor with brake.

- 8. (Currently Amended) The split nut opening/closing device in a mold clamping apparatus according to claim 7, wherein the left half piece and right half piece of said one split nut nuts are brought closer to and separated from each other by a driving device comprising a the geared motor with brake whose output shaft is installed to a bracket fixed to said connecting rod rods so as to be perpendicular to said connecting rod rods; a crank arm which is fixed to the output shaft of said geared motor with brake and has a pin at the tip end; a joint member which is installed to the right half piece of one split nut via an adapter member and is given an initial compressive force by spring means; and a connecting link one end of which is rotatably connected to the tip-end pin of said crank arm and the other end of which is rotatably connected to said joint member via a pin.
- 9. (Previously Presented) The split nut opening/closing device in a mold clamping apparatus according to claim 8, wherein the tip-end pin of said crank arm is supported at both ends, and said connecting link has a curved shape so as to avoid the interference with said crank arm.
- 10. (Currently Amended) A split nut opening/closing device for a mold clamping apparatus, the mold clamping apparatus including a fixed platen, a movable platen, and a plurality of tie-bars each having a first end fixed to either one of said platens and a second end that penetrates the other platen, where the second end has a tip-end threaded portion, said split nut opening/closing device comprising:

a first split nut adapted to be provided on the other platen to connect the fixed platen to the movable platen via one tie bar of the tie bars by engaging the tip-end threaded portion thereof, said first split nut including a first half piece and a second half piece that are slidably supported on by a first guide box attached to the other platen;

a first link mechanism connecting said first half piece of said first split nut to said second half piece of said first split nut;

a second split nut adapted to be provided on the other platen to connect the fixed platen to the movable platen via another tie bar of the tie bars by engaging the tip-end threaded portion thereof, said second split nut including a first half piece and a second half piece that are slidably supported on the other platen;

a second link mechanism connecting said first half piece of said second split nut to said second half piece of said second split nut;

a connecting rod is fixed to said first half piece of said first split nut and said first half piece of said second split nut, said connecting rod being slidably connected to said second half piece of said first split nut and said second half piece of said second split nut[[,]]; and

a driving device configured to drive one of said first half piece and said second half piece of said first split nut, wherein both of said first half piece and said second half piece of said first split nut are moved via said first link mechanism, wherein said first half piece of said second split ring nut is moved via said connecting rod, and wherein both of said first half piece and said second half piece of said second split nut are moved via said second link mechanism,

wherein the first guide box includes two bottom plates for supporting said first half piece and said second half piece of said first split nut and a groove portion provided between said bottom plates for receiving said first link mechanism.